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ABSTRACT

Land remote-sensing satellites are developing as a commercial communications technology after years under a government monopoly. The shift to the private sector and improving quality of the pictures produced have given rise to increased concerns about the potential for violations of privacy rights. Although satellites can currently photograph only fairly large objects, improvements in satellite technology invite claims based on unreasonable searches by the government, tort privacy law, and tort trade secrets law. Two separate cases, brought by the Dow Chemical Company and by a California marijuana grower, in which the courts decided that the photographs produced by satellites were not injurious to the defendants, have strengthened the arguments of the government to use remote-sensing satellites despite Fourth Amendment challenges. Moreover, it appears that most news media use of satellite images would resist privacy claims in the United States if the freedom were practiced with some restraint. Cases concerning the use of aerial photographs for the purpose of obtaining and releasing trade secrets may be protected as well, although such decisions are less certain due to the outcome of the "E.I. duPont deNemours & Company versus Christopher" case. Privacy laws at present pose few obstacles to the use of satellite images, but several cases offer warning that a more restrictive environment could emerge if satellite use were to become generally perceived as invasive of basic privacy rights. (Footnotes are provided.) (JC)

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# PRIVACY AND THE PRIVATE EYE IN SPACE

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PRIVACY AND THE PRIVATE EYE IN SPACE


## Abstract

Land remote-sensing satellites are developing as a commercial communications technology after years as a government monopoly. The shift to the private sector and improving image quality give rise to increased concerns about the potential for violations of privacy rights by the satellites. This paper examines the legal environment for privacy claims against satellite image users in three areas: unreasonable search, intrusion and trade secrets.

## Introduction

Satellites that take pictures of earth from space have recently become a promising commercial communications technology. This paper looks at personal privacy issues raised by the remote-sensing satellites and how existing privacy law may be applied in the new fact situations.

## Satellite History

Remote-sensing satellites launched by the U.S. government have been circling the globe in polar orbits for a decade and a half now, used to reveal patterns of deforestation, the location of mineral deposits and the condition of farm crops.(1)

Recently, news organizations have started to use the satellite images with growing frequency. Examples include a multi-part series by the Cox Newspapers on the human causes of such natural disasters as flooding and droughts(2), stories by several news organizations on the Chernobyl nuclear disaster, and photographs in the New York Times(3) and on ABC Television(4) of the Soviet Union's central Asian

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1 Christopher C. Joyner, "Selling Satellites: The Commercialization of LANDSAT," 26 Harv. Int'l L.J. 63 (1985), at 66.
2 Darts and Laurels, Columbia Journalism Review, March/April 1986, at 25.
3 New York Times, August 25, 1986 p. __.
4 Mark Brender, ABC News, panelist, "Space-Based News Gathering and the First Amendment," RTNDA International Conference, Salt Lake City, August 27, 1986.

space center, which reportedly showed construction of support facilities for a space shuttle.

Technological capabilities

The first LANDSATs, owned by the U.S. government, could only see objects at least 80 meters across. Current LANDSAT satellites, now operated for the government by the private EOSAT Corporation(5), have a resolution of 30 meters.(6)

"I don't want to oversell the technology," Mark Brender, the head of the Radio-Television News Directors Association's Media in Space committee, says. "No, you're not going to be reading license plates from space."(7)

But image quality is continuing to improve. The commercial SPOT Image satellite, backed by the French government, offers the best commercially available resolution today -- 10 meters, or 30 feet. Today's military satellites are claimed to have resolution as good as three inches.

"The military can see tennis balls; the civilians can see tennis courts," is the way John Pike, associate director

5 EOSAT was formed as a joint venture of RCA, now a subsidiary of General Electric, and of Hughes Aerospace, now a subsidiary of General Motors.
6 Harry R. Marshall, "Commercialization of Space: Incentives, Impediments and Alternatives," 12 J. Space L. 163 (1984), at 165
7 See Brender, supra note 4.

of space policy for the Federation of American Scientists describes the difference.(8)

The existence of the high-resolution military satellites demonstrates that similar capabilities could be made available for commercial systems.

The reasons why they are not now available include:

1. The added cost of gathering and processing the more detailed data. For example, cutting the minimum resolution in half quadruples the amount of data to be processed. In addition, unless more sensitive sensors are used, greater resolution requires increasing the number of satellites, or reducing the frequency with which a satellite photographs a particular area. The existing satellites now cover the entire surface of the earth at best only once every 16 days.(9)

2. Uncertainty about the viability of a market for such data. Many users -- such as those searching for mineral resources -- believe greater resolution would only complicate their work.(10) The news media market for the images is still in its infancy.

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8 Deborah Mesce, "See SPOT Photograph," The Associated Press, September 2, 1986.
9 Id.
10 David Julian, vice-president for marketing, SPOT Image, panelist at RTNDA Conference, see note 4, supra.

3. Various legal, regulatory, national security, international relations and public policy concerns that have added uncertainty to commercial development plans.(11)

There apparently are no reliable estimates for when higher-resolution civilian satellites may go into operation, or what the eventual resolution capability of such satellites will be. But if past trends in the field continue, further improvements will be achieved -- ones that will raise privacy concerns.

Regulatory Environment

Operation of U.S. private land remote-sensing satellites is regulated by the Land Remote-Sensing Commercialization Act of 1984.(12)

The statute requires that U.S.-based satellites be licensed by the government and be operated "in such a manner as to preserve and promote the national security of the United States...."(13) To date, regulations issued to

11 For background on these issues see: William E. Smith, "'SpaceCam:' Legal Issues in the Use of Remote-Sensing Satellites for News Gathering," conference paper, Association for Education in Journalism and Mass Communication, August 1986; also see articles by Robert J. Aamoth, Paul F. Uhlir, and Frederick B. Henderson, in American Enterprise, the Law, and the Commercial Use of Space, Vol. II, National Legal Center for the Public Interest, Washington, D.C., 1986.

12 Land Remote-Sensing Commercialization Act of 1984, Pub.L. 98-365, 98 Stat. 451 (1984), 15 U.S.C.A. 4201.

13 Id. at ss. 402, 98 Stat. at 459, 15 U.S.C.A. at 4242.

implement the statute have failed to clarify the limits of any national security restrictions.(14)

The statute takes no notice of possible personal privacy issues, perhaps because existing resolution levels make those issues seem remote. It also requires satellite operators to make data available on a non-discriminatory basis(15), in keeping with the U.S. "open skies" policy.(16) This has served to stave off efforts by developing nations that fear exploitation of their resources to win United Nations backing for international limitations on the satellites.(17)

Privacy Issue Categories

Three distinct privacy-related claims may foreseeably arise from the use of commercial remote-sensing satellites. These claims would be based on:

1. Federal and state constitutional bans on unreasonable searches by government;

2. Tort privacy law, especially the theory of intrusion, in which news organizations, advancing conflicting First

14 See, "Licensing of Private Land Remote-Sensing Space Systems," Notice of Proposed Rulemaking, 15 CFR Part 960, 51 Fed. Reg. 9971, at 9973.
15 Land Remote-Sensing Commercialization Act of 1984, supra note 11, at ss 103, 98 Stat. at 452, 15 U.S.C.A. at 203.
16 See, Senate Report No. 98-458 on H.R. 5155, Land Remote-Sensing Commercialization Act, 198 U.S. Cong.& Admin. News 658, at 659.
17 Eleonora Ambrosetti, "The Relevance of Remote Sensing to Third-World Economic Development: Some Legal and Political Aspects," 12 N.Y.U. J. Int'l L. & Pol. 569 (1980).

Amendment claims, frequently are defendants; and (& private facts?)

3. Tort trade secrets law, in which business competitors of a plaintiff are the likely defendants.

Recent Fourth Amendment Developments

The U.S. Supreme Court decided two cases last May which, on balance, substantially strengthen arguments available to the government to defend use of commercial remote-sensing satellites against Fourth Amendment(18) challenges.

The cases rejected objections raised by the Dow Chemical Co.(19) and by a California marijuana grower(20) to aerial surveillance of their properties conducted by law enforcement officials acting without warrants.

Such aerial surveillance would appear to be the closest available factual parallel to satellite remote-sensing.

In both cases the court split 5-4, with then Chief Justice Burger writing the majority opinions and Justice

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18 The Fourth Amendment reads: The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularily describing the place to be searched, and the persons or things to be seized.

19 Dow Chemical Co. v. United States, ___ U.S. ___, 106 S.Ct. 1819 (1986), 54 USLW 4464, No. 84-1259, decided May 19, 1986.

20 California v. Ciraolo, ___ U.S. ___, 106 S.Ct. 1809 (1986), 54 USLW 4471, No. 84-1513, decided May 19, 1986.

Powell writing dissents in which he was joined by Justices Brennan, Marshall and Blackmun.

Dicta in the majority opinion in the Dow case might seem to limit satellite use. Justice Burger offered the view that "surveillance of private property by using highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed absent a warrant."(21)

But the chief justice's comment makes no distinction between military satellites and commercial ones.

As noted above(22), the Land Remote-Sensing Commercialization Act assures that all commercial satellite data will be made available to the general public on a non-discriminatory basis. So, based on the reasoning in the rest of the opinion, it appears the Dow majority would not object to such surveillance. Most likely the court had in mind data from military satellites which the military sometimes shares in "filtered" form with civilian government agencies.(23)

Clearly, the court majority was not concerned with how many people could afford to buy the device. It rejected

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21 Supra note 19, at 11 of majority slip opinion.
22 See discussion, supra note 12.
23 Henderson, supra note 11, at 104-105, discusses this sharing process and its potential for reducing the market for commercial satellite data.

arguments in the dissent(24) that the Environmental Protection Agency's surveillance could not reasonably be foreseen by Dow because members of the public are unlikely to purchase the $22,000 sophisticated map-making camera used by the photographer the EPA hired. After all, the EPA didn't buy the camera either -- it merely rented the use of it.

And the court may not even have been concerned with whether images from the particular device used are generally available. Instead it appears to be concerned with whether the party observed could be reasonably expected to know that some readily available, non-surreptitious means could be used to detect -- without physical intrusion on the property -- what was happening there. This would be true even if that was not the device actually used. If a private plane, flying low, but within legal, navigable airspace, could observe the scene, then what difference would it make if some other, more exotic device was used instead -- at least so long as the image detail was not radically different.

The court also offered an indication of the boundary at which image resolution quality might create an invasion of privacy.

"....[T]he photographs here are not so revealing of intimate details as to raise constitutional concerns.

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24 Supra note 19, at 12-13, note 13, of dissent slip opinion.

Although they undoubtedly give EPA more detailed information than naked-eye views, they remain limited to an outline of the facilities buildings and equipment."(25)

And in a footnote Justice Burger notes:

"The partial dissent emphasizes Dow's claim that under magnification power lines as small as 1/2-inch diameter can be observed. But a glance at the photographs in issue shows that those power lines are observable only because of their stark contrast with the snow-white background. No objects as small as 1/2-inch diameter such as a class ring, for example, are recognizable, nor are there any identifiable human faces or secret documents captured in such a fashion as to implicate more serious privacy concerns." [Footnote omitted](26)

This would suggest considerable room for further development before the now 10-meter resolution of the latest commercial remote-sensing satellites would give rise to a constitutional privacy invasion.

Overview of Fourth Amendment Factors at Issue

Factors important to the courts in Fourth Amendment privacy law cases have included:

1. The location of the area observed or searched;

2. Whether the search is surreptitious or intrusive;

25 Id., at 11 of majority slip opinion.
26 Id.

3. The subjective expectation of privacy from the particular type of search made manifest by the party's actions; and

4. The objective reasonableness of the party's privacy expectation claim.

Location -- Public Place or Private Home

The polar extremes of privacy law analysis are provided by public places and private homes.

In a public place, the courts assume there can be no expectation of privacy. The only difficulty occurs in determining whether certain places that nominally are public -- such as a phone booth -- become private while in use.(27)

A private home creates the opposite assumption. Activities there will be deemed to be private -- unless they're conducted in such a manner as to be clearly observable from the public street.(28)

Location -- Curtilage or Open Field

But how far does the privacy of the home extend? For most of this century, the issues in Fourth Amendment search cases had revolved around whether the area searched without

27 In Katz v. United States, 389 U.S. 347 (1967), the court concluded the booth did become a private place, at least as against government use of a device secretly placed on the outside of the glass wall of the booth to listen to Katz's conversation.
28 Supra note 20, at 5 of majority slip opinion.

a warrant was an open field, or part of the area immediately surrounding a home, the curtilage.(29)

If it was an open field, a law enforcement officer could search the area without getting a warrant -- even though the officer had to trespass on the property to conduct the search.

The open fields doctrine was first set forth by Justice Holmes in Hester v. United States.(30) In Hester, revenue agents hiding on Hester's father's property, away from the house, saw Hester hand a bottle of moonshine to another man, gave chase, and arrested him.

And the field need not be "open" in the sense of being visible from outside the defendant's property. In a 1984 case, Oliver v. United States(31), the Supreme Court upheld a search that turned up a field of marijuana, even though the field a was highly secluded, surrounded by woods, fences, embankments and a river and located on a 200 acre farm clearly posted with no trespassing signs.

The court concluded that as a matter of law there can be no reasonable expectation of privacy in open fields.(32)

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29 See Susan Gellman, "Affirmation of the Open Fields Doctrine: The 'Oliver' Twist," 46(3) Ohio State Law Journal 729 (1985) for extensive discussion of the case law in this area.
30 265 U.S. 57 (1924).
31 104 S.Ct. 1735 (1984).
32 See Gellman, supra note 29, at 736.

By contrast, in the area immediately surrounding a home, called the curtilage, society is prepared to recognize a privacy expectation as reasonable -- provided the citizen has taken reasonable steps to prevent reasonably foreseeable types of observation.(33)

Business curtilage and intrusiveness

Since much of the impetus for the Fourth Amendment came from colonial businessmen upset about searches of business property by agents of the crown looking for tax violations, it's not surprising that business structures have been accorded much of the same protection from unreasonable searches that are recognized for homes.(34)

Yet the court has concluded that, particularily with regard to regulatory inspections, commercial property enjoys a lower level of protection than the home.(35)

And in Dow, the court determined that the open areas of an enclosed plant complex should not be protected from a non-intrusive aerial search, while indicating they might be accorded some protection from intrusive searches conducted on the ground.(36) Not quite an open field, but less than a curtilage.

33 Supra note 20, at 3-6 of majority slip opinion.
34 See Gellman, supra note 29, at 745, et seq.
35 See Donovan v. Dewey, 452 U.S. 594 (1981) and Marshall v. Barlow's, Inc., 436 U.S. 307 (1978).
36 Supra note 19, at 9 of majority slip opinion.

Subjective/Objective Reasonableness

In Katz v. United States(37) the Supreme Court first formally established reasonableness as a test of the expectation of privacy. In Katz, police had attached a listening device to the outside of a public phone booth Katz used to call in betting information. The test, as formulated in Justice Harlan's concurring opinion required: "first that the person have exhibited an actual (subjective) expectation of privacy and, second that the expectation be on that society is prepared to recognize as 'reasonable.'"(38)

The court continues to apply this test, but in conjunction with the locational rules in such a fashion that certain areas -- public places and open fields, for example -- will not sustain a finding of objective or societal reasonableness.(39) However, as in Katz, a specified place within a generally public area -- such as the phone booth in Katz -- may become a private place while in use.

Surreptitiousness

While the issue has rarely in itself been decisive, the court, particularily since Katz, has appeared to have factored in some concern about whether the search was conducted in a "sneaky" fashion. In Katz the hidden nature of the eavesdropping device made it less reasonable to

37 389 U.S. 347 (1967), 88 S.Ct. 507.
38 Id., at 361
39 See, generally, Gellman, supra note 29.

assume that Katz would have expected to be overheard. In Dow, the fact that the plant was open to the air and that planes had flown over in the past, made it less reasonable to assume that the company could expect to shield the plant from the government's aerial view. This suggests that the more knowledge the public has about the nature and capabilities of remote-sensing satellites and the non-selective nature of their coverage, the less likely it is a court will perceive the satellites as an impermissible "sneaky" tool.

Results Under State Constitutions

Some state courts have turned to Fourth Amendment analogs in their state constitutions and found the basis for broader restraints of police activities there than the U.S. Supreme Court now sees in the Fourth Amendment itself.(40)

The U.S. Supreme Court's Ciraolo decision(41) held that a marijuana grower had no Fourth Amendment protection against a police overflight that revealed the marijuana plants growing in his back yard. But just a few months earlier, the California Supreme Court, in People V.

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40 Substantial textual differences are not a prerequisite to differing interpretations. Compare the text of Fourth Amendment, supra, note 18, with that of Article I, section 13 of the California Constitution: "The right of the people to be secure in their persons, houses, papers, and effects against unreasonable seizures and searches may not be violated; and a warrant may not issue except on probable cause, supported by oath or affirmation, particularily describing the place to be searched and the persons and things to be seized."

41 Supra note 20.

Cook,(42) a case factually almost identical to Ciraolo, reached the opposite result, saying:

"A society where individuals are required to erect opaque cocoons within which to carry on any affairs they wish to conduct in private, and the concomitant chill such a requirement would place on lawful outdoor activity, would be inimical to the vision of legitimate privacy which underlies our state Constitution."(43)

The state court concluded that -- at least if a landowner has taken routine action to shield his yard from ground-level scrutiny -- he has an objectively "reasonable expectation of privacy from purposeful police surveillance of his back yard from the air."(44) And he thus meets the subjective and objective prongs of the Katz test.

New technologies held little appeal for this court. "...[T]he 'reasonableness' of an individual's expectation of privacy is not defined solely by technological progress. We reject the Orwellian notion that precious liberties derived from the Framers simply shrink as the government acquires new means of infringing them."(45)

Conclusion

Clearly the potential exists for wide-spread domestic

42 710 P.2d 299 (1985)
43 Id, at 302.
44 Id, at 305.
45 Id.

law enforcement use of satellite images, particularily as resolution capabilities increase.

It may be possible to establish a spectral fingerprint of marijuana or other narcotics that could flag at least large-scale cultivation on current images. Such images might also be used in various environmental enforcement cases. With higher resolution and greater image frequency the satellites might be used against a wide range of other criminal activity -- from tracking illegal aliens to uncovering auto theft rings.

The trend of the recent Fourth Amendment cases could be reversed -- the votes were close. Other states might follow California's lead in taking a more restrictive view. But unless that happens, there seem to be few legal clouds on the horizon for law enforcement use of the new technology.

Intrusion and the News Media

"What if the National Enquirer orders up a picture of someone's back yard?"(46) That was the question posed a recent magazine article on remote-sensing.(47)

The answer for the moment is that the picture would be unlikely to show anything that would interest the Enquirer's editors. But what about a day when resolution of commercial

46 The quote was attributed to University of North Carolina professor Harold M. White, Jr.
47 Tony Mauro, "The Puzzling Problems of Pictures from Space," Washington Journalism Review, June 1986, pp. 15-17.

satellite photos might be as good as the aerial photos used by the EPA to check on Dow's smokestacks?

The rationales developed in the Fourth Amendment cases discussed above do not automatically apply, since the Fourth Amendment protects only against government actions. In addition some courts, looking to the motives of the parties, might find those of a law enforcement officer pursuing alleged criminals more persuasive than those of journalists pursuing a story -- especially if the subject of the story seems to be supermarket tabloid gossip.

Nonetheless, the supreme court's recent decisions upholding aerial surveillance by the police should be of considerable value in defending satellite surveillance by the news media.

As Justice Burger wrote in Ciraolo:

"Any member of the public flying in this airspace who glanced down could have seen everything that these officers observed. On this record, we readily conclude that respondent's expectation that his garden was protected from such observation is unreasonable and is not an expectation that society is prepared to honor."(48)

There has been far less litigation in the news media intrusion theory privacy area than in the government unreasonable search area, perhaps because so many of the

48 Supra note 20, at 5-6 of majority slip opinion.

government's potential adversaries on the issue find themselves already in court facing criminal charges.

Thus there is a dearth of cases directly addressing the news media issue with aerial surveillance as the factual base.

But in other cases, the distinction about whether behavior was or was not improperly intrusive for tort privacy law purposes has often turned on whether the image or recording in question was made from a public place.

In Marks v. King Broadcasting (49) a pharmacist's claim that a news photographer's picture of him in his shop invaded his privacy was rejected because the photographer took the shot through a window while he stood on a public sidewalk. But in Dietemann v. Time, Inc.,(50) a faith healer won his case against two Life Magazine staffers who surreptitiously recorded his "examination" of a patient in his home.

In addition to the public versus private place distinction, intrusion cases are often influenced, as Dietemann was by the surreptitious nature of the surveillance. If the courts are convinced that satellites -- because the whole world has reason to know about them -- aren't a "sneaky" tool, this argument should be resolved in the media's favor.

49 618 F.2d 572 (1980).
50 499 F.2d 245 (1971).

Satellite images from the other side of the world are just as readily available as ones of scenes just down the street, but news organizations may find the foreign legal climate significantly different.

For example, in France the classic privacy case hypothetical -- the nude sunbather -- has already arisen, though aboard a private yacht rather than in a back yard. And the press lost.(51)

French law makes it a criminal offense to "fix or transmit by means of any machine a picture of a person in a private place, without that person's consent."(52)

French courts interpret the concept of private life broadly, and have a variety of penalties at their disposal, including the power to seize all copies of an offending publication.(53) But recently French courts have started to permit the media to use the fact that the photo was taken in a public place as a defense, provided the plaintiff didn't object to having the photo taken.(54)

Observers note that the law is invoked frequently and appears to have little deterrent effect, perhaps because punitive damages are not allowed and awards tend to be

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51 Romy Schneider v. Ste Union (CA Paris, 5 June 1979) JCP.1980.II.19343.
52 New Art. 368 of the Code Penal, as translated in Ruth Redmond-Cooper, "The Press and the Law of Privacy," 34 Int'l & Comp. L. Q. 769 (1985), at 770.
53 Redmond-Cooper, id. at 771.
54 Id. at 773.

rather small. They also suggest that some public figures and publishers find the publicity gained from the court action mutually advantageous -- attracting further sought-after publicity and increased circulation.(55)

Conclusion

In the present judicial climate it appears most news media use of satellite images would resist privacy claims in the United States. But some self-restraint about the type of images used is needed to avoid stirring up public resentment of the practice, which could lead to a judicial reassessment of its intrusiveness.

Trade Secrets

Businesses are held to have a privacy right in their secret processes. The Restatement (First) of Torts states"

"One who discloses or uses another's trade secret, without a privilege to do so, is liable to the other if

(a) he discovered the secret by improper means, or

(b) his disclosure or use constitutes a breach of confidence reposed in him by the other in disclosing the secret to him ...."(56)

The vast majority of trade secret cases are brought against former employees or business partners who are

55 Id. at 779.

56 Restatement (First) of Torts (1939), ss 757. Note: For reasons not relevant to this discussion trade secrets and related subjects were omitted from Restatement 2d. Nonetheless, this section has continued to be cited frequently in recent cases.

claimed to have violated a formal agreement not to disclose proprietary information or not to compete with the former employer. And this potentially could involve some uses of satellite images. If, for example, an employee of a mineral exploration company, hired to analyze satellite data, who had signed appropriate confidentiality agreements, used company information to invest in mineral leases for his own benefit, a strong trade secrets case could be made against him.

Much more rare, and posing more troubling First Amendment freedom of information issues, are cases in which the defendant has no prior business relationship with the plaintiff.

Consider these facts from a federal appeals court opinion:

"This is a case of industrial espionage in which an airplane is the cloak and a camera the dagger. The defendants-appellants, Rolfe and Gary Christopher, are photographers in Beaumont, Texas. The Christophers were hired by an unknown third party to take aerial photographs of new construction at the Beaumont plant of E.I. duPont deNemours & Company, Inc. Sixteen photographs of the DuPont facility were taken from the air on March 19, 1969, and

these photographs were later developed and delivered to the third party."(57)

DuPont sued, claiming the photos showed portions of the plant still under construction from which, DuPont alleged, a skilled person could deduce the company's secret process for making methanol.(58)

The case came to the appeals court on an interlocutory appeal, and thus the court was only deciding whether DuPont had stated a claim upon which relief could be granted(59) -- not that it necessarily should be granted the relief after a full examination of all the facts at trial.

Nonetheless the court gave life to subsection (a) of the Restatement. It concluded that DuPont had taken reasonable steps to protect its secret process -- even though while the plant was under construction it was visible from the air.

It also quoted the Restatement commentary about improper means: "Examples of such means are fraudulent misrepresentations to induce disclosure, tapping of telephone wires, eavesdropping or other espionage. A complete catalogue of improper means is not possible. In general they are means which fall below the generally

57 E.I. duPont deNemours & Company v. Christopher, 431 F.2d 1012 (1970), at 1013.
58 Id.
59 Id., at 1014.

accepted standards of commercial morality and reasonable conduct."(60)

The court then suggested that such industrial espionage has "become a popular sport in some segments of our industrial community," but rejected an acceptance of "the law of the jungle as the standard of morality expected in our commercial relations," finally concluding that aerial photography was in improper means of discovering the trade secrets exposed during the plant's construction.(61)

The DuPont court's theory wouldn't have to be stretched very far to create major problems for firms marketing satellite images or publishing purchased images. The Christophers presumably had no intention of competing in the methanol market with DuPont. But because they had a contractual relationship with an undisclosed someone who the court, not unreasonably, presumed did have such a competitive motive, they were considered a valid target for DuPont's suit.

The seller of satellite images has a similar relationship with its customers, as does the "value added" firm that enhances and interprets raw satellite data for commercial customers. The satellite operator might arguably be immunized from a DuPont-style suit because of its government license to operate the system and the statutory

60 Id. at 1016, quoting Restatement of Torts ss 757, comment f at 10 (1939).
61 Id at 1016-1017.

obligation to distribute images on a non-discriminatory basis. But the firm that interprets the images, or a publisher who distributes them, might have to argue that they simply no longer were secrets. Would that persuade the DuPont court, which ignored the fact that the plant's secrets were exposed to general view from the air?(62)

A more recent case, while it doesn't involve aerial surveillance, does offer an outcome more encouraging to the remote-sensing industry.

In Chicago Lock Co. v. Fanberg,(63) a locksmith had published a book containing key codes for the lock company's tubular locks, reducing the high level of security that was one of the selling points for the locks.

He had learned some of the codes through his own "reverse engineering," an accepted practice under trade secret law. The rest he obtained by trading the promise of a copy of the book for the key codes other locksmiths had learned through their own work in "picking" locks for customers who had lost their keys and didn't want to wait to have a new key delivered from the lock company.(64)

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62 Note also Restatement ss 757(c) which would impose liability one who discloses another's trade secret if "he learned the secret from a third person with notice of the facts that it was a secret and that the third person discovered it by improper means..."
63 676 F.2d 400 (1982)
64 Id., at 401-403.

The appeals court in Fanberg concluded that the concept of improper means "connotes the existence of a duty to the trade secret owner not to disclose the secret to others" and that that duty must be based on a sharing of the secret in confidence.(65)

Since no confidential relationship existed between the company and the locksmiths, the court rejected the company's arguments.(66)

The court declined to even reach the defense claim that the district court's injunction against publication of the book was a prior restraint prohibited by the First Amendment, because it was able to dispose of the case on the trade secret grounds.(67)

Conclusion

The result in Chicago Lock Co., coupled with the statutory non-discriminatory access requirements and the Supreme Court's approval of aerial surveillance in the Fourth Amendment cases should provide reasonable insulation for publishers of satellite images from most trade secrets complaints. But the risks involved in the DuPont court's reasoning cannot be completely dismissed.

Overall, it would appear that privacy laws at present pose relatively few obstacles to the use of remote-sensing

65 Id., at 404.
66 Id., at 405.
67 Id., at 403, 406.

satellite images. But the cases offer sufficient warning that a more restrictive environment could emerge if satellite use were to become generally perceived as invasive of basic values.